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Patients with recent Myocardial Infarction are at high risk to develop Diabetes and Impaired Fasting Glucose

Individuals with diabetes are known to have heart attack rates that are equivalent to those of non-diabetic individuals who have already experienced a heart attack. And patients with diabetes who have heart attacks have increased complication and death rates compared to non-diabetic patients.[1] Much less is known about what happens in the years after a heart attack to those who did not have diabetes during the initial coronary event.

Investigators from Europe used the data from a large follow-up study of heart attack patients to look at the incidence of diabetes and impaired fasting glucose (IFG) in the years after a heart attack in patients without diabetes at the time of the event.[2] They used prospective data from a large study about fish oil and vitamins conducted

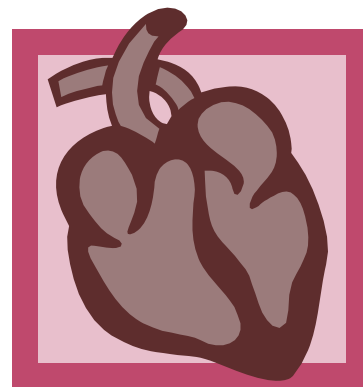
in Italy. They identified 8291 patients with no known diabetes and a fasting glucose less than 126mg/dL at the time of the heart attack. The patients were 59 years old on average with an average body mass index (BMI) of 26.3 kg/m². Almost half (45%) smoked. All had fasting blood glucose tested on the average of 3.5 weeks after the heart attack and periodically during follow-up exams over the subsequent years.

With an average of 3.2 years of follow-up, 12% developed diabetes. Among those whose initial fasting glucose was less than 100mg/dL (n=6229), 62% either developed diabetes (n=548) or IFG (n=3308). Independent risk factors for diabetes and IFG included older age, higher BMI, hypertension, and current smoking. Persons taking beta blockers were at higher risk, but lipid lowering agents were associated with a lower risk. A higher Mediterranean diet score was associated with a lower risk of diabetes and IFG. Treatment assignment to diet or fish oil did not affect the risk.

The incidence of diabetes or IFG after heart attack carried an increased risk of adverse clinical outcomes. Compared with people with normal glucose tolerance, there was a 10% higher risk of death after the development of IFG and a 44% higher risk of death after the development of

diabetes. Risk of recurrent heart attack was also increased in those with abnormal glucose tolerance compared to those who did not develop IFG or diabetes.

Even though they did not do glucose tolerance testing, the investigators suggest that an acute myocardial infarction should be considered a pre-diabetes risk equivalent. They stress the need to screen for abnormal glucose tolerance in anyone with a history of a heart attack and the importance of initiating lifestyle interventions among heart attack survivors to reduce their cardiometabolic risk.



1. American Diabetes Association. The link between diabetes and cardiovascular disease. www.diabetes.org

2. Mozaffarian D, Marfisi R, Levantesi G, Silletta MG, Tavazzi L, Tognoni G, Valagussa F, Marchioli R. Incidence of new-onset diabetes and impaired fasting glucose in patients with recent myocardial infarction and the effect of clinical and lifestyle risk factors. *Lancet* 2007;370:667-675.

FIGURE 1: PHYSICIAN OFFICES PARTICIPATING IN THE DIABETES QUALITY CARE MONITORING SYSTEM (DQCMS) PROJECT, October 2007 (N = 39)

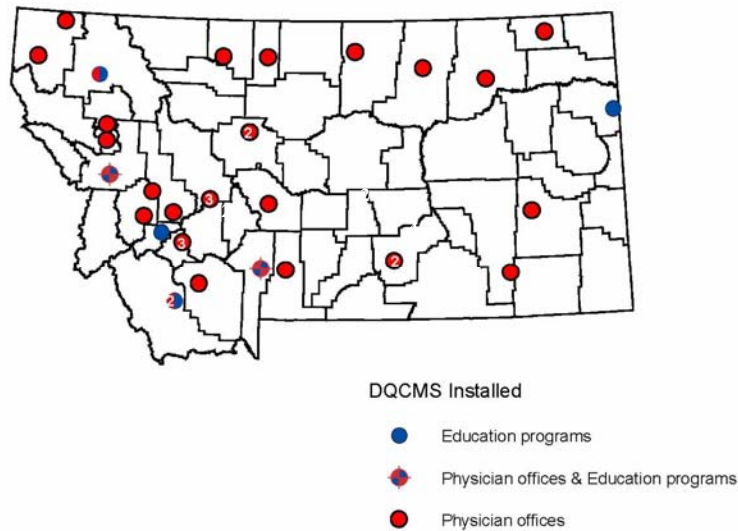


FIGURE 2: DIABETES CARE INDICATORS FROM MONTANA PHYSICIAN OFFICES PARTICIPATING IN THE DCMS/ DQCMS PROJECT, BASELINE (N = 22 CLINICS; 3,629 PATIENTS) AND OCTOBER 2007 (N = 29 CLINICS; 6,205 PATIENTS)

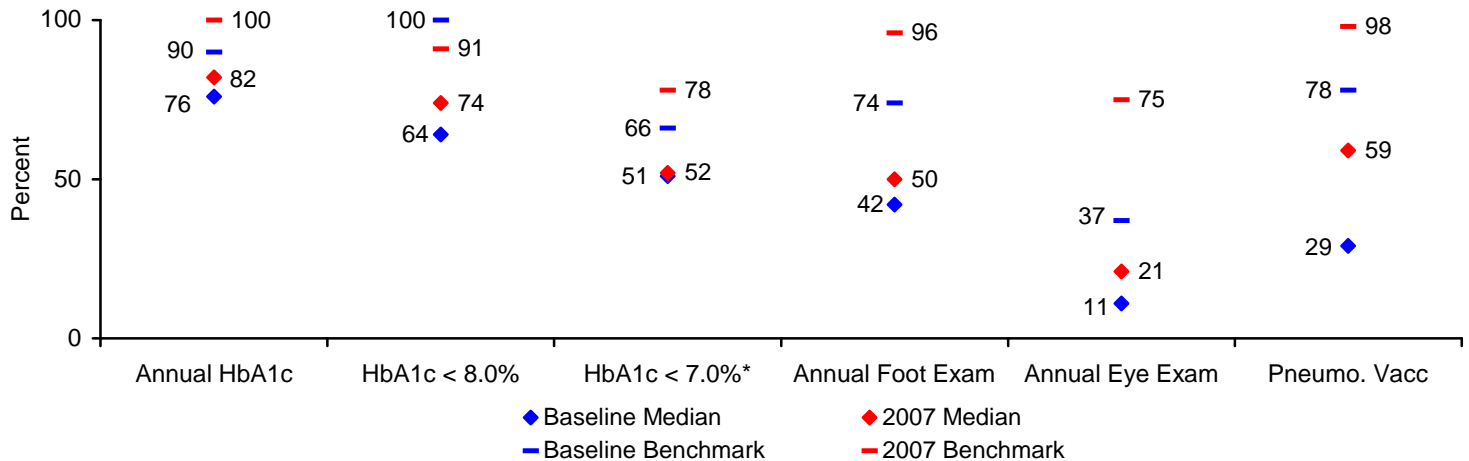
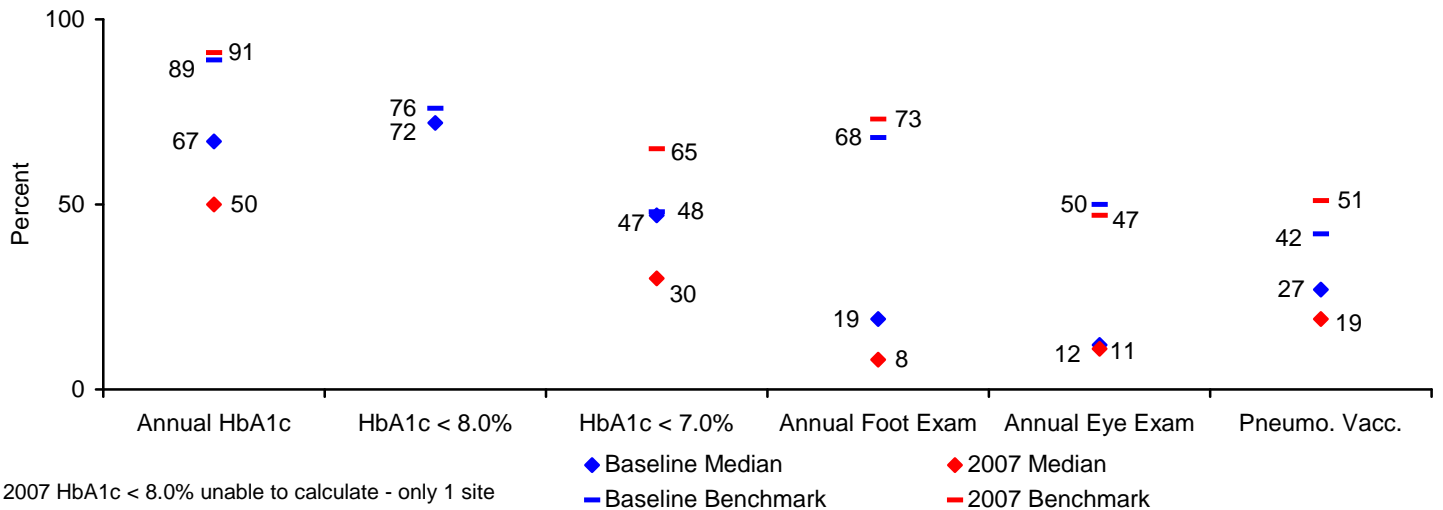


FIGURE 3: DIABETES CARE INDICATORS FROM MONTANA DIABETES EDUCATION PROGRAMS PARTICIPATING IN THE DQCMS PROJECT, BASELINE (N = 4 SITES; 912 PATIENTS) AND OCTOBER 2007 (N = 6 SITES; 1,628 PATIENTS)



Data Accuracy: A Better Reflection of Care

Technology permeates our daily existence and has enhanced our ability to look at healthcare in a whole new way. Quality of care is a determinant to our well being in terms of facility, longevity and now reimbursement. Without databases it would be nearly impossible to look at multiple indicators in a population setting and gauge quality of care, but in order to look at and compare ourselves accurately, the database still requires a human touch. Data accuracy is the first step in really measuring how where we are as an agency in comparison to best practice standards.

The first step is to understand exactly what the database was designed to track. Each system is different and in terms of tracking, it is imperative to enter patients that fit the database's tracking criteria. For instance, DQCMS was designed to track information on Type I and II diabetes. Entering patients with gestational diabetes, metabolic syndrome or pre-diabetes will "skew" the outcome data because the medical standards are different than those with Type I or II diabetes. Also, when considering the patients that we want to look at over time, they should be patients that will be seen on a regular basis or patients where access to their medical information is readily available. A patient may have diabetes and come in for a one-time visit for an insulin prescription; however, they may have a primary care provider elsewhere. Not having regular updated information on a patient will again, affect outcome data.

Many employees in an agency can be taught to conduct data entry. However, one individual should be responsible for making sure the data in the database is maintained. Maintenance of data is the second step in good data accuracy. Maintenance should include inactivating patients, deleting patients and providing quality control for data entry accuracy.

Inactivating patients is an important step in making sure our outcome data is reflective of the patients currently seen. Patients can move away, seek out other providers, delay their medical care or cease to return for other reasons beyond the provider's control. Inactivating patients that have

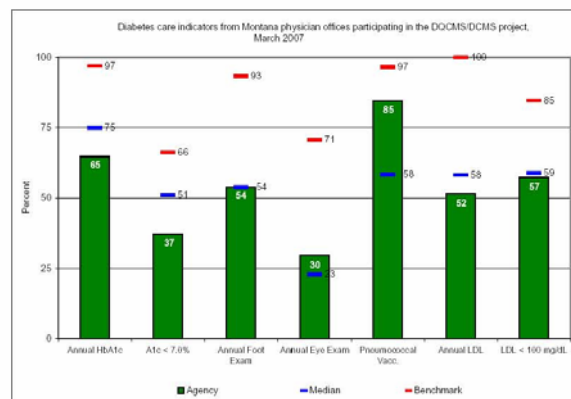
not been seen in over a year takes them out of the data set, and again, the outcome data will reflect what care is being provided for patients currently seen.

Data accuracy and maintenance does not have to be time consuming but is necessary for how we measure ourselves against quality indicators. The goal in tracking data is not only to enter information on what we are doing but also to measure the end result. If data is not accurate, the agency's care can look below par when the reality is that current activity is not being viewed. Below are screen shots reflective of how "cleaning up" the database gives the agency a more accurate view of what is occurring in a patient population with diabetes.

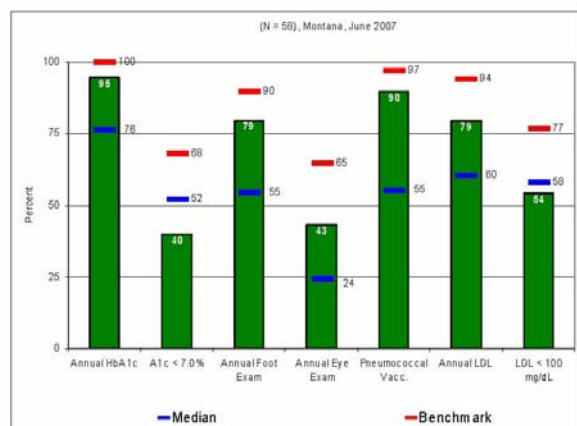
(As reported by Linda Stewart RN, BSN)

Metzger, J. (2004, February). *Using computerized registries in chronic disease care*. Oakland, CA: California HealthCare Foundation.

Before N=91



After Inactivation and Deletion of Patients N=58



Save the Dates!

WHAT: Cardiovascular Health Summit
WHEN: April 4, 2008
WHERE: Downtown Park Side Holiday Inn, Missoula, MT

(For more information contact
Ava Griffenberg at 406-444-5508)

WHAT: Wyoming Chronic Disease Conference

WHEN: May 7 – 8, 2008
**WHERE: Little America Hotel
Cheyenne, WY**

(For more information call
Betty Holmes, MS, RD at 307-777-6011)

WHAT: Heart Healthy – Cardiovascular & Diabetes Education UP – Date Series WyADE (Wyoming Association of Diabetes Educators)

WHEN: February 1, 2008

WHERE: Holiday Inn - Cody, WY
(For more information contact Betty Holmes, MS, RD at 307-777-6011)

WHAT: Work Life Wellness Conference

WHEN: May 21 – 22, 2008

WHERE: SunSpree Holiday Inn, West Yellowstone, MT

(For more information contact
Ava Griffenberg at 406-444-5508)



Welcome to:

Lincoln County Community Health Center - Libby
and Welcome back:

Holy Rosary Hospital – Miles City
Philips County Family Health Clinic - Malta

~Montana Diabetes Project (MDP) Staff~

Program Manager

Helen Amundson, RN, BSN, CDE
(406)444-0593 hamundson@mt.gov

QDEI Coordinator

Marcene Butcher, RD, CDE
(406)578-2075 marcibutcher@msn.com

Epidemiologist

Carrie Oser, MPH
(406)444-4002, coser@mt.gov

Office Manager/Accountant

Susan Day (406)444-6677
(406)444-6677 sday@mt.gov

Quality Improvement Coordinator

Linda Stewart, BSN, RN (Billings)
(406)245-6003 lindastewart@rbbmt.org

Quality Improvement Coordinator

Chris Jacoby, BSN, RN (Helena)
(406)444-7324 cjacoby@mt.gov

Medical Consultant

Dorothy Gohdes, MD
(505)296-5820 dgohdes@aol.com